BilbyCNC Material Safety Data Sheet
For PLA Filament

Version 1.1

This Material Safety Data Sheet relates to the product known as ***BilbyCNC PLA filament***.

1. Chemical Product and Manufacturer Identification

Chemical Name : Polylactide
Physical state : Solid in transit. Liquid in use
Odour : Sweet
Colour : Variable

Product use : A thermoplastic in rod form of 1.75-3mm width for use in 3D printers, at an extrusion temperature of 200-250°C

Name of manufacturer: BilbyCNC uses an agent company to manufacture this filament on its behalf

Use restriction: Not recommended for use outside the description above.
If considering use for medical purposes or food container purposes, please contact us in advance about the specific usage.

Contact details : BilbyCNC www.bilby.net PH (within Australia) 1800 245 297 (outside Australia) +64 2 4480 6450

2. Hazards Identification

The information contained here within was based on the best information to hand at the time of publication. To date PLA Hazard Identification research has been limited.

Environmental effects : None identified
- Hazardous to the aquatic environment (Acute) : Not classified
- Hazardous to the aquatic environment (Chronic) : Not classified

Adverse Human Health Effects :
- Eye contact : Contact may cause eye irritation
- Inhalation of gases evolving from melted product : No Effects Identified To Date
- Target organ effects: There have been no target organ effects identified following ingestion or dermal exposure in animal studies.
- Sensitization: Did not cause sensitisation on laboratory animals

Other hazards which are not otherwise covered :
- Volatile gases which may irritate eyes, nose and throat may be released.
- Use adequate local exhaust ventilation during drying and moulding.
- Get medical advice if you feel unwell.
- Sweep up and dispose of spilled product to eliminate slipping hazard.
- Do not pile up spools too high in order to avoid injury caused by falling of the product.

Mutagenic effects: No data is available on the product itself.

Reproductive toxicity: No data is available on the product itself.

Carcinogenic effects: No data is available on the product itself.

3. First-Aid Measures

Inhalation :

Remove the victim from the contamination immediately to fresh air.
Evacuate victim that inhaled gas from the molten polylactide to fresh air.
Seek medical advice, if victim does not recover.

Skin contact :

If a person touches the molten polylactide, cool the affected part with fresh water.
Do not try to remove the polylactide by force and seek medical advice if the person got burnt.

Eye contact :

Gently rinse the affected eyes with clean water for at least 15 minutes. Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.
Have the victim remove contact lenses if he is wearing them and continue rinsing.
Do not let the victim rub his eyes.

Ingestion :

Rinse mouth with water. Give the person one or two glasses of water, try to get the victim to vomit by putting a finger in the throat.
If you feel unwell after vomit, seek medical advice .

Protective measures for a first aid person :

Wear protection gloves when removing melting polylactide or high temperature polylactide.

Notes to physician: Treat symptomatically.

5. Fire-Fighting Measures

Auto ignition temperature : 338°C

Extinguishing Media :

Foam. Water. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

Specific Hazards under fire :

Burning produces obnoxious and toxic fumes Aldehydes Carbon monoxide (CO) carbon dioxide (CO2)
In case of fire and/or explosion do not breathe fumes.
Fires involving this material produce large amounts of sooty smoke.

Specific fire-fighting measures :

Apply water from a safe distance to cool and protect surrounding area.
Move container from fire areas if it can be done without risk.
Keep personnel removed from and upwind of fire.
Evacuate non-essential personnel to safe area.
Fire-fighters should wear proper protective equipment

Other information:

Fine dust dispersed in air may ignite. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures :

Sweep up spilled pellets on road or floor to avoid tripping.

Measures for environmental effects :

Do not wash away into shower or waterway.
If pellets got released in environment, take adequate steps to prevent aquatic animals and birds dying from eating pellets.

Methods and materials for containment and cleaning up :

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident :

Shut off all sources of ignition; No flares, smoking or flames in area.

7. Handling and Storage

Handling :

Local ventilation / Total air ventilation :

Low gas emissions, believed to be non-toxic
Good general ventilation should be sufficient for most conditions.

Safety treatments :

Do not keep this material under high temperature condition for a long time.
Do not touch high temperature resin without protector.
Polylactide can easily generates static electricity, so take countermeasures to eliminate static electricity if necessary.

Safety Measures/Incompatibility :

S29-Do not empty into drains
Do not drop onto, or slide across sharp objects
Avoid rough handling or dropping

Recommendations for Storage :

This material is flammable
Follow fire defence and local regulations for storage and handling
Keep away from heat
Keep away from sources of ignition—No smoking
Keep away from heat source, steam pipe and direct sunlight.
Store in a cool dry place below 50°C

Stability and Reactivity

Avoid contact with Strong bases and oxidizing agents
Inherently Bio-degradable : estimated life 5-15 years
Colours will fade when exposed to sun light
Material integrity degrades when exposed to water and sun light.
Does not Bioaccumulate.

Disposal considerations

This product is not currently accepted as recyclable within Australia
Spools storing this product are currently non-recyclable within Australia
Dispose of unused material via registered waste carriers.

8. Exposure Control and Personal Protection

Engineering measures:

When Processing, partial ventilation is desirable to eliminate generated gas and powder-dust.

Dust emission data not currently available

Personal protective equipment :

Respiratory protection :

S38-In case of insufficient ventilation, wear suitable respiratory equipment.

Against powder-dust: protective mask for powder-dust

Against gas from molten polymer: protective mask for oraganic gas

Hand protection :

S37-Wear suitable gloves.

Wear protection gloves of heat-resistance when handling melting polymer.

Eye protection :

Wear protective eyeglasses or chemical safety goggles

Skin and body protection :

S36-Wear suitable protective clothing.

It is desirable to put on long sleeve clothing so as not to touch skin directly.

Wear protection clothing of heat-resistance when handling melting polymer.

Safety and Health measures :

Wash hands before breaks and at the end of work.

Do not eat, drink or smoke at work.

9. Physical and Chemical Properties

Physical properties :

Appearance : solid thread/filament

Color : variable

Odor : Sweet

pH : Not Available

Phase change temperature :

Boiling point : None

Boiling range(Mixture) : None

Melting point : 175-250°C

Decomposition temperature : 260°C

Flash point : Not Available

Ignition temperature : >350°C

Solubility in Water : Insoluble

Solubility in other solvents : Caustic Soda

10. Stability and Reactivity

Stability :

This product is considered a stable material under normal and anticipated storage and handling conditions.

Possibility of hazardous reactions :

This product is considered a stable material under normal and anticipated storage and handling conditions.

Conditions to avoid :

direct sunlight, fire, humidity, contact with strong bases, oxidizing agents and especially caustic soda

Incompatible materials :None

Decomposition products :

During burning, black smoke, carbon dioxide, carbon monoxide, nitrogen oxide may be produced.

11. Toxicological Information

Acute toxicity :Not classified.
Skin corrosion/irritation :Not classified.
Serious eye damage/eye irritation :Not classified.
Respiratory or skin sensitization :Classification not possible.(N.A.)
Germ cell mutagenicity :Classification not possible. (N.A.)
Carcinogenic effects :Classification not possible. (N.A.)
Toxicity for reproduction :Classification not possible. (N.A.)
Specific Target Organ/Systemic Toxicity (Single Exposure) :Classification not possible. (N.A.)
Specific Target Organ/Systemic Toxicity (Repeated Exposure): Not classified.
Aspiration hazards :Classification not possible. (N.A.)

Others: As for articles that are "Classification not possible", there are no instances reported on harmful effects to health and environment, according to recent datum.

12. Ecological Information

Bioaccumulation : Does not bioaccumulate. Inherently biodegradable.

13. Disposal Consideration

Dispose to an authorized waste collection point.
Follow the local law and regulations of waste disposal and prevention against public nuisance
Do not cast waste (waste fluid, solid waste and washing drainage etc.) that includes this product directly into a river, or bury it underground.
Check if there is no resin left, if disposing the package after use. (paper package, flexible container etc.)
Follow the local law and regulations of waste disposal.
Do not use the package for other purposes.

14. Transport Information

International guide line : n/a
Specific safety measures and conditions on transport :
Covering is necessary for shutting off sunlight and rain.
Handle gently to avoid damaging bags.

15. Other Information/References

The information relates to this specific material. It may not be valid for this material, if used in combination with any other materials or in any process. It is the user's responsibility to satisfy him-selves as to the suitability and completeness of this information for his own particular use.

The information herein is given in good faith, but no warranty, express or implied, is made.

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS:
The company does not recommend any of its products, including samples, for use:
(A) in any application which is intended for any internal contact with human body fluids or body tissues (B) as a critical component in any medical device that supports or sustains human life; and (C) specifically pregnant women or in any applications designed specifically to promote or interfere with human reproduction.

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